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... of rules, the so-called **ECA-Rules (Event ... If the condition is satisfied, the specified ac ... To react to more sophisticated situations, complex events were introduced ...**

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L Liu, C Pu, W Tang - [Knowledge and Data Engineering, IEEE Transactions on](#), 1999 - [ieeexplore.ieee.org](#)

... actions with respect to the data set over which the trigger **condition** and query ... This feature simplifies many **complex issues** in **ECA Rules**, especially ...

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H Fritschi, S Gatzui, KR Dittrich - [University of Zurich](#), 1997 - [historical.ncstrl.org](#)

... **condition** or action objects. ... **ECA-Systems**. ... work, however, is recognized as a **complex**

task[9] 5 . Thus, we aim at the realization of a comprehensive ...

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... rule operations, and on the other hand **complex conditions** and actions ... R be the set of defined **ECA-rules** ... an **event** is signalled 1. After **event signalling**, control ...

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A Koschel, PC Lockemann - [Data & Knowledge Engineering](#), 1998 - [Elsevier](#)

... Global temporal ordering of distributed **complex events**, if needed ... **Processing Unit**: In C2offein **ECA rules** are ... Corresponding **condition parts** are defined on the ...

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J Bailey, A Poullovassilis, PT Wood - Proceedings of the 11th international conference on World ..., 2002 - portal.acm.org

... of triggering and activation relation- ships between **ECA** rules is more **complex** in an ... relations with potential **events** or with the bodies of rule **conditions**. ...

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**ECA rule-based support for workflows - all 3 versions »**

A Goh, YK Koh, DS Domazet - Artificial Intelligence in Engineering, 2001 - Elsevier

... R2: **Event** Draft\_Design\_completed (design) **Condition** repair\_ authorised Action ... and the processes are large and **complex**. ... for workflows based on **ECA** rules [14, 15 ...

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M Cilia, C Bornhovd, AP Buchmann - ... Information Systems: 9th International Conference, CoopIS ..., 2001 - books.google.com

... Based EGA-Rule Processing We realize the **ECA**-rule processing ... combination of its basic

services, ie **complex event** detection, **condition** evaluation, and ...

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**DEVICE: Compiling production rules into event-driven rules using complex events - all 6 versions »**

N Bassiliades, I Vlahavas - Information and Software Technology, 1997 - Elsevier

... Oriented **Database** (OODB) system that supports **ECA** rules only. The integration is based on the compilation of the rule **condition** into a **complex event** network ...

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## An intelligent database for engineering applications

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Received 30 November 1995; revised 10 May 1996; accepted 23 August 1996. ; Available online 18 June 1998.

## Abstract

Many engineering applications need to respond to unpredictable events in a timely manner. Existing production rules using database systems provide an event-driven rule processing capability to meet this requirement. In an object-oriented database, this paper, we present an intelligent database which integrates an object-oriented database (OODB) with an expert system, CLIPS. The paper describes the design and implementation of the rule manager of this intelligent database. In the rule manager, event-condition-action (ECA) rules are represented as first class objects of the OODB. A rule definition language (RDL) has been developed to manipulate ECA rules in a declarative way. A graphical user interface (GUI) also supplies a template to interactively define, delete, update and check ECA rules. Detection of time events, method events, absolute events and composite events is supported by the rule manager. The CLIPS inference engine is used to control condition evaluation and action execution. When an ECA rule is triggered. Finally, a typical workflow application is used to illustrate the system.

**Author Keywords:** object-oriented database; active database; expert systems; rules

## References

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2. G. Kappel and S. Vieweg, Database requirements for CIM applications. *Journal of Integrated Manufacturing*

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C Türker, M Gertz - The VLDB Journal The International Journal on Very Large ..., 2001 - Springer

... used in database design, specify **conditions** on the ... and foreign key constraints, up to **complex** features, such ... diverse integrity features proposed in **SQL**:1999. ...

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AP Buchmann - Active Rules in Database Systems, 1999 - dvs1.informatik.tu-darmstadt.de  
 ... In the case of **SQL**, **ECA** rules are specified as ... and deactivation of constraints modeled by **ECA** rules. ... evaluation superfluous and revert to (**complex**) event-action ...

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... be anything from a database language (eg, **SQL** for Starburst ... R be the set of defined **ECA**-rules. ... Providing this information for **complex** actions and **conditions** is ...

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C Türker, S Conrad - Kurzfassungen des Workshops "Föderierte Datenbanken", ..., 1996 - wwwiti.cs.uni-magdeburg.de

... In order to formulate **complex conditions** across several CDBSs, an ... When a **SQL**-operation

(eg an update) is sent ... concerns the derivation of local **ECA**-rules from ...

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C Raguenaud - 2002 - soc.napier.ac.uk

... especially **complex** and ... 18: **Attribute** ... constraint **condition**.....

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Y DONG, CFY CHEE, Y HE, A GOH - Journal of Intelligent Manufacturing, 1997 - Springer

... rules as **complex objects** of four classes. ... The **ECA** rule is eventually constructed and stored in CLIPS. ... CJ and Darwen, H. (1993) A Guide to the **SQL** Standard, 3rd ...

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H Ditt, Westfalen) Universität (Münster - 1997 - Univ

... Que- ries can be formulated in the **SQL-like object-oriented** ... The definition of triggers is more **complex**. In general, a trigger is defined in an **ECA-style** as: on ...[Cited by 10](#) - [Related Articles](#) - [Web Search](#) - [Library Search](#)[\[PDF\] Semantic Integrity Support in SQL-99 and Commercial \(Object-\) Relational Database Management Systems - all 4 versions »](#)

C Turker, M Gertz - Computer Science Technical Report, University of California, ..., 2000 - cs.ucdavis.edu

... used in the **database** design, specify **conditions** on the ... the former are also used in **SQL-99** as ... Using these extensions, **complex** datatypes canbe constructed for a ...[Cited by 5](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)[\[PDF\] Designing databases using the activity paradigm - all 2 versions »](#)

Y Amghar, M Meziane - Third International Workshop of the Moscow ACM SIGMOD ..., 1996 - cdserv4.inria.fr

... rules, which can be expressed by **ECA** (event - con ... So this concept allows us to enforce **complex** business rules ... that groups logically related PL/SQL types, **objects** ...[Cited by 2](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)[Overview of emerging database architectures - all 4 versions »](#)

TCT Du, PM Wolfe - Computers &amp; Industrial Engineering, 1997 - Elsevier

... oriented **database** can be written in **SQL** mode, it is ... in another **object**, an unstructured **complex object** cannot be ... were the definitions of the **attributes** of **ECA**. ...[Cited by 2](#) - [Related Articles](#) - [Web Search](#)Did you mean to search for: [sql \*\*ECOcomplex\*\* condition attribute object database](#)

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 ... feature simplifies many complex issues in **ECA** Rules, especially ... This is a user-defined and optional **attribute**. . ... both can be specified in **SQL**-like expressions. ...

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[\[BOOK\] Active, Real-Time, and Temporal Database Systems: Second International Workshop, Artdb'97, Como, ...](#)

 SF Andler, J Hansson - 1998 - [books.google.com](#)

 ... Rules can relate to other **objects** and have **attributes**. ... towards modeling composite events using more **complex condition** parts ... A condition in an **ECA** rule is used ...

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[\[PDF\] Representing and enforcing e-commerce contracts using occurrences](#)

 A Abrahams, J Bacon - Proceedings of the 4th International Conference on ..., 2001 - [cl.cam.ac.uk](#)

 ... in various opaque languages, such as Java, C, and **SQL**. ... a particular item stored in the **database** may be ... may occur retrospectively based on the **attributes** of the ...

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 E ANWAR - 1996 - [itlab.uta.edu](#)

 ... We demonstrate how **ECA** (event-condition-action) rules, dened ... **object-oriented database**

system developed at UF, is used for demonstrating our approach ...

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